

**Notice of Allowability**

Application No.

10/809,945

Examiner

Medina A. Ibrahim

Applicant(s)

HARBERD ET AL.

Art Unit

1638

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/12/07.
2. ☒ The allowed claim(s) is/are 55,57-64,66-68,70,72,74-77,79-83,86-89, 91, 93-103, renumbered as 1-39,respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                                 |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|  | 9. <input type="checkbox"/> Other _____.  |

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mary Wilson on 05/25/07.

The application has been amended as follows:

In The Claims:

Claim 55 (Currently amended). An isolated polynucleotide encoding a polypeptide which on expression in a plant provides inhibition of growth of the plant, which inhibition is antagonised by gibberellin, wherein the polypeptide has an amino acid sequence which shows at least 90% identity [80% similarity] with the Rht amino acid sequence of [Fig 3b (] SEQ ID NO: 1[)].

Claim 56 is cancelled.

Claim 57 (Currently amended). The isolated polynucleotide according to claim 55, wherein the polypeptide has an amino acid sequence which shows at least 95% identity [similarity] with the Rht amino acid sequence of [Fig 3b (] SEQ ID NO: 1[)].

Claim 58 (Currently amended). The isolated polynucleotide according to claim 55, wherein said polypeptide comprises the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO: 104).

Claim 59 (Currently amended). The isolated polynucleotide according to claim 55, wherein said polypeptide comprises a contiguous sequence of 17 amino acids, wherein at least 10 residues of said contiguous sequence show amino acid [similarity or] identity with the residue in the corresponding position in the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO: 104).

Claim 61 (Currently amended). An isolated polynucleotide encoding a polypeptide which on expression in a plant provides inhibition of growth of the plant, which inhibition is antagonised by gibberellin, wherein the polypeptide comprises an amino acid sequence having at least 90% identity [80% identical] to the Rht amino acid sequence of [Fig 3b ( ) SEQ ID NO: 1 ( )] and, wherein said polynucleotide specifically hybridizes to the sequence of Figure 8A (SEQ ID NO: 14) at 65°C in 0.25M Na<sub>2</sub>HPO<sub>4</sub>, pH 7.2, 6.5% SDS, 10% dextran sulphate and a final wash at 60°C in 0.1X SSC, 0.1% SDS.

Claim 62 (Currently amended). The isolated polynucleotide according to claim 61, wherein said polynucleotide comprises the nucleotide sequence

Art Unit: 1638

GACGAGCTGCTGGCGGCGCTCGGGTACAAGGTGCGCGCCTCCGACATGGCG

(SEQ ID NO: 105)

Claim 63 (Currently amended) An isolated nucleic acid that hybridizes to the complement of a nucleic acid coding for the amino acid sequence shown in Figure 8b (SEQ ID NO. 7), under the [following] conditions including hybridization [without formamide] for 18 hours at 65°C, with washing once with 3 x SSC (1 x SSC is 0.15 M NaCl, 0.015 M sodium citrate), 0.1% SDS for 25 minutes at 65°C, and a final wash [once] with 0.1 x SSC, 0.1% SDS for 25 minutes at 65°C, wherein said isolated nucleic acid encodes a polypeptide comprising the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO: 104) and expression of said isolated nucleic acid in a plant results in inhibition of growth of the plant, the inhibition being antagonised by gibberellin (GA).

Claim 64 (Currently amended). An isolated polynucleotide encoding a polypeptide which on expression in a plant confers a phenotype on the plant which is gibberellin-unresponsive dwarfism or which on expression in a *rht* null mutant phenotype plant complements the *rht* null mutant phenotype, such *rht* null mutant phenotype being resistance to the dwarfing effect of paclobutrazol, wherein the polypeptide comprises an amino acid sequence which shows at least 90[80]% similarity with the *Rht* amino acid sequence of [Fig 3b (] SEQ ID NO: 1 [)].

Claim 65 is cancelled.

Claim 66 (Currently amended). The isolated polynucleotide according to claim 64, wherein the polypeptide has an amino acid sequence which shows at least 95% identity [similarity] with the Rht amino acid sequence of [Fig 3b (] SEQ ID NO: 1[)].

Claim 67 (Currently amended). An isolated polynucleotide encoding a polypeptide which on expression in a plant confers a phenotype on the plant which is gibberellin- unresponsive dwarfism or which on expression in a rht null mutant phenotype plant complements the rht null mutant phenotype, such rht null mutant phenotype being resistance to the dwarfing effect of paclobutrazol,

wherein the polypeptide comprises an amino acid sequence least 90% identity [80% identical] with the Rht amino acid sequence of [Fig 3b (] SEQ ID NO: 1 [)], and wherein said polynucleotide specifically hybridizes to the polynucleotide sequence of Figure 8A (SEQ ID NO: 14) at 65°C [42°C] in 0.25M Na<sub>2</sub>HPO<sub>4</sub>, pH 7.2, 6.5% SDS, 10% dextran sulfate with a final wash at 60°C [55°C] in 0.1X SSC, 0.1% SDS.

Claim 68 (Currently amended). The isolated polynucleotide according to claim 64, wherein the polypeptide comprises the amino acid sequence of a Triticum Aestivum Rht polypeptide, with one or more amino acids from the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO: 104) are deleted.

Claim 69 is cancelled.

Claim 70 (Currently amended). The isolated polynucleotide according to claim 68, [69] wherein the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO: 104) is deleted.

Claim 71 is deleted.

Claim 72 (Currently amended). An [The] isolated polynucleotide [according to claim 64 wherein the polypeptide comprises] encoding a polypeptide comprising the amino acid sequence shown in Figure 9b (SEQ ID NO:8) [for the maize D8 polypeptide,] with one or more amino acids from the sequence DELLAALGYKVRSSDMA (SEQ ID NO:106) or the sequence VAQK (SEQ ID NO:101) or the sequence LATDTVHYNPSD (SEQ ID NO: 102) are deleted.

Claim 73 is cancelled.

At claims 74-76, "claim 73" is replaced with ---claim 72---.

Claim 77 (Currently amended). An [The] isolated polynucleotide [according to claim 64 wherein the polypeptide comprises] encoding a polypeptide comprising the amino acid sequence shown in Figure 6b (SEQ ID NO:5), with one or more amino acids from the sequence DELLAALGYKVRSSDMA (SEQ ID NO: 106) are deleted.

Claim 78 is cancelled.

Claim 79 (Currently amended). The isolated polynucleotide according to claim 77 [78] wherein the amino acid sequence DELLAALGYKVRSSDMA shown as (SEQ ID NO: 106) is deleted.

Claim 80 (Currently amended). An isolated nucleic acid that hybridizes to the complement of a nucleic acid coding for the amino acid sequence shown in Figure 8b (SEQ ID NO. 7) under the [following] conditions including [:] hybridization [without formamide] for 18 hours at 65°C, with washing once with 3 x SSC (1 x SSC is 0.15 M NaCl, 0.015 M sodium citrate), 0.1% SDS for 25 minutes at 65°C, and a final wash [once] with 0.1 x SSC, 0.1% SDS for 25 minutes at 65°C, wherein expression of said isolated nucleic acid complements a rht null mutant phenotype in a plant, such phenotype being resistance to the dwarfing effect of paclobutrazol.

At claim 81, ---any one of---, was inserted after "comprising".

Claims 84 and 85 are cancelled.

At claim 86, ---isolated--- is inserted before "polynucleotide".

Claim 90 is cancelled.

Claim 91 (Currently amended). The host [plant] cell according to claim 89, [90] wherein the plant cell comprises at least [comprising more than] one copy of said polynucleotide per haploid genome.

Claim 92 is cancelled.

Claim 93 (Currently amended) A method of producing a transformed host cell, the method comprising incorporating into the [a] host cell the [said] isolated polynucleotide according to claim 55 to produce [so that] the transformed host cell [is produced].

Claim 95 (Currently amended). The method according to claim 94, wherein the host cell is a plant cell [and the method further comprises regenerating a plant from one or more of said transformed plant cells].

Claim 96 (Currently amended) A transformed plant comprising a [the] plant cell transformed with the isolated polynucleotide according to claim 55 [89].

Claim 97 (Currently amended). A transformed plant part or propagule of the transformed [a] plant [comprising the plant cell] according to claim 96 [89].

Claim 98 (Currently amended). A method of producing a transformed plant, the method comprising incorporating the isolated polynucleotide according to claim 55 into a plant cell and regenerating a transformed plant from said plant cell.

Claim 99 (Currently amended) The method according to claim 98 further comprising growing an offspring or a descendent of the transformed plant regenerated from said plant cell].

Art Unit: 1638

Claim 100 (Currently amended) The method according to claim 99 further comprising sexually or asexually propagating the transformed plant regenerated from said plant cell.

Claim 101 (Currently amended) A method of altering the growth of a plant, the method comprising [;] causing or allowing expression from a heterologous polynucleotide comprising the isolated polynucleotide according to claim 55 within cells of the plant, whereby expression of said heterologous polypeptide alters the growth of said plant.

Claim 102 (Currently amended). A method of identifying or obtaining a polynucleotide encoding a polypeptide which comprises the amino acid sequence DELLAALGYKVRASDMA (SEQ ID NO: 104) and which on expression in a plant provides inhibition of growth of the plant, which inhibition is antagonised by gibberellin, the method comprising screening candidate nucleic acid by using oligonucleotide primers selected from the group consisting of SEQ ID NO: 21-SEQ ID NO: 55 and SEQ ID NO: 80-SEQ ID NO: 100 [by using a nucleic acid probe which] ,wherein said polynucleotide specifically hybridizes [hybridizes] to the nucleic acid sequence of Figure 8A (SEQ ID NO: 14) under stringent conditions at 65°C in 0.25M Na<sub>2</sub>HPO<sub>4</sub>, pH 7.2, 6.5% SDS, 10% dextran sulfate with a final wash at 60°C in 0.1X SSC, 0.1% SDS.

At claim 103, "wherein" is replaced with ---, wherein the----

Claim 104 is cancelled.

Art Unit: 1638

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM. Before and after final responses should be directed to fax nos. (703) 872-9306 and (703) 872-9307, respectively.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

5/21/07

MAI

MEDINA A. IBRAHIM  
PRIMARY EXAMINER  
*Medina A. Ibrahim*